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# A Game of Time: Time Travel, Video Game and Cinema in the Era of Algorithm

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**Abstract:** How do we experience time in an era of digital, networked communication? What if time becomes an algorithmic database that provides random accesses and entries to different moments in the past or the future? This essay focuses on a 2009 Chinese film, *Lee's Adventures*, to explore the intricate interrelations between digital media and the representability of time. The film features a young urban professional named Lee, who is frenetically obsessed with playing a video game in order to travel to a different time. The film constantly highlights a suffocating, efficiency-centered corporate time that Lee has to endure as a petty clerk in a cold, glass-surfaced office building. The video game is taken by him as a “time machine” to escape from the homogenous, hollow present. Yet ironically, although the video game becomes a vehicle for Lee to travel to a different time, his access is structured by the algorithmic database of the game. Developing from an analysis of the algorithmic aesthetic of the film, I argue that the ideological functions of the index of analog cinema are now taken over by algorithm, which provides a new structure to manage the contingent. Tracing this tension between the determinacy and the play inherent in the standardization of time since the early modern period, this essay in the end asks how digital media redefine cinema's role in restructuring time.

**Keywords:** Algorithmic Culture, Contingency, “Net-born Generation Cinema”

In 2009, a twenty-minute animation short, entitled “Lee's Adventures” 李献计历险记, went viral among Chinese netizens. Made by a young man named Li Yang who was studying at Beijing Film Academy, *Lee's Adventures* is a remix of a variety of contemporary media culture from video games, Japanese manga, television talk shows, to Hollywood film previews, journalist photographs, and action films. The protagonist Lee Xianji, believing that he will be able to travel to a different time once he beats through a computer video game, fanatically invests all his time and energy in playing the game, not even hesitate to sell his kidney and use his body for illegal smuggling in order to fulfill this purpose.

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Narrated by a Beijing-accent male voice, the animation presents an otaku type “loser”, who no longer harbor any idealist dreams but withdraw into their private life in a drastically transformed society that is increasingly taken over by corporate neoliberalism. Its striking visual style, bold jumps between scenes and swift shifts between different media materials and forms immediately generated an excitement among young audiences. A young advertisement director named Guo Fan, struck by its power and sensing the commercial potential of the animation, decided to adapt the 20-minute short into an eponymous feature film. Released in 2011, the film, starring Fang Zuming (Jaycee Chan, the son of Jackie Chan), is an idiosyncratic mix of live action footage, animation, computer graphic images and other types of images. Regarded as a film made for an “internet generation”, the feature received mixed reception: while it was lauded as a bold experiment that radically departed from the visual and narrative norms set up by the fifth and sixth generation directors, it was also criticized for the lack of narrative clarity and jarring disjunctions between animation and live action sequences.

What fascinates me here is that both filmmakers and critics are paying increasing attention to the spectatorial and aesthetic connections between cinema and the internet. Filmmakers self-consciously address the media consuming habits of the new generation of audiences with new visual and narrative styles. Chinese film critics, accordingly, used the term “net-born generation cinema” 网生代电影, to reflect on the success of recent films, such as *Old Boys* (2010, Xiao Yang), *Tiny Times* (2013, Guo Jingming), and *The Continent* (2014, Han Han), all of which have inseparable ties with the internet culture.<sup>1</sup> The ties manifest in two aspects: first, the filmmakers had already accumulated fame and fans among the internet users before they entered the realm of filmmaking; and therefore secondly, internet users and fans are also turned into audiences of these films, the production of which the internet celebrities were closely involved in.<sup>2</sup> The film *Old Boys*, though initially was a modest production with no stars, was directly distributed through the internet, which in turn made an immediate fame for the directors-actors Chopsticks Brothers. The interpenetration of the two realms features frequent flows of both cultural and monetary capital between the two, especially evidenced in the initiations and investment made by video streaming websites such as *tudou* and *youku* in filmmaking. Besides these transformations in production and distribution, the aesthetics of these “net-born generation films” also display certain salient features. Critics quickly detected that the narrative of “net-born generation

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<sup>1</sup> Wang et al. 2014: 1–2.

<sup>2</sup> Wang et al. 2014: 6.

cinema” is often fragmented into a pastiche of underdeveloped plots and scenes that do not necessarily come together as a coherent story.<sup>3</sup> These films depart from the narrative system of classical Hollywood films, which is usually built upon tightly-knitted cause-and-effect relations. This departure from classical Hollywood films also differs from the modernist aesthetics as exemplified in the early works of the fifth-generation and the sixth generation directors such as *Yellow Earth* (1984, Chen Kaige) and *Platform* (2000, Jia Zhangke). Rather, the purported “net-born generation films” reflect the convergence of media, which Henry Jenkins characterizes as “the flow of content across multiple media platforms” and “the migratory behavior of media audiences” in the age of networks that have ultimately transformed what cinema is.<sup>4</sup> The narrative and the presentation modes of cinema increasingly demonstrate what Bolter and Grusin call “remediation”, namely, “the representation of one medium in another”, which they regard as “a defining characteristic of the new digital media.”<sup>5</sup>

To be sure, the convergence of media is not technologically determined by the advent of the digital, nor does remediation start with the age of the internet. As Marshall McLuhan famously stated: “The content of a medium is always another medium.”<sup>6</sup> Cinema from its day of birth has always been co-existing and competing with other media, and continuously remediating other media forms to refashion itself. Yet, the digital makes the remediation process more aggressive, as Bolter and Grusin point out: “It can try to refashion the older medium or media entirely, while still marking the presence of the older media and therefore maintaining a sense of multiplicity or hypermediacy.”<sup>7</sup> Remediation is not simply the refashioning of media forms, but a process that re-marshals multiple agencies including technologies, institutions, corporations and users. The term “net-born generations cinema” raised by Chinese critics indicates these multifaceted but interlocked aspects of transformations in cinema in the network society. In other words, by adapting and remediating other media forms, cinema attests its resilience in the era of digital and social media.

What I am particularly concerned with here is how the “net-born generations cinema” structures and mediates the experience of temporality. The drastic remediation is not only driven by industrial reasons, but also reflects the renewed role of cinema as a social institution in shaping and regulating the sense of temporality. While film critics such as Mary Ann Doane have eloquently

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<sup>3</sup> Wang et al. 2004: 5.

<sup>4</sup> Jenkins 2006: 2–16.

<sup>5</sup> Bolter and Grusin 1999: 45.

<sup>6</sup> McLuhan 1964: 1.

<sup>7</sup> Bolter and Grusin 1999: 46.

demonstrated the emergence of cinematic time and ideological function of photographic index were inextricably tied to modern science and institutions of knowledge production around the turn of the 20<sup>th</sup> century, the eclipse of indexicality in the digital era has also generated anxieties over the fate of film and filmic time. For example, D.N. Rodowick in his *The Virtual Life of Film* argues that digital images fail to capture the duration of the shot, nor do they do justice to time past. He concludes that “through the waning of indexicality, new ethical stances in relation to time and to history emerge in our encounters with digital imaging.”<sup>8</sup> While Rodowick’s argument about the “failures” of the digital is debatable, he nonetheless pushes to the forefront the issue of temporality in our understanding of digital images. It is therefore my goal in this essay to tackle this question by asking how the temporality of the “net-born generations cinema” has been transformed in relation to the digitally accelerated convergence of media. I propose that, video games, the internet and other media are not simply assimilated into cinema but transform cinematic time as cinematic images are brought to the same process of digitization with other types of images. In other words, cinema does not simply absorb other media forms without changing itself. The cinematic remediation of other media through digitization invites the question of how cinematic time has been transformed through this process. I also want to stretch Bolter and Grusin’s notion of “remediation” in order to underscore the temporality of media consumption: the convergence of media through digitization in fact reinforces the ephemeral but repetitious cycles of media consumption by allowing contents to flow across different but nonetheless intimately connected media platforms. In short, remediation not only introduces the temporality of other media forms into cinema but also shapes the temporality of media consumption.

This pressing concern with temporality is manifest in both the content and the aesthetic form of *Lee’s Adventures*. The feature film clearly capitalizes the popularity that the eponymous animation short has already accrued among the internet users, but it also replicates the aesthetic of the animation short by remediating various media forms from manga to television shows and video games. Narratively, the computer video game becomes the very vehicle for time travel, for every time the game is cracked, Lee Xianji is brought to a new “moment:” from one thousand years ago on the silk road, to a sudden “fall” onto the battlefield of Normandy during the WWII, or at the south pole in the year of 2150. It should be mentioned that time travel is a common theme among contemporaneous Chinese internet novels. Often dubbed by netizens as “*chuan-nyue*” 穿越, these time-travel internet novels also generated mass production of

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<sup>8</sup> Rodowick 2007: 145.



*chuanyue*-theme TV shows. However, few of them highlight *media per se* as the very vehicle for time travel as the film *Lee's adventures* does. In this sense, the film can be read as an allegory of and reflections on the ways in which our experiences of temporality is restructured by contemporary media devices and practices.

In the following pages, I will first briefly outline the theme of time travel in post-Mao popular culture, especially in the realm of the internet culture. This is followed by a reading of the time travel in *Lee's Adventures* as a response to the pressure of corporate time imposed on the urban professionals by China's high-speed "forward" developments. I regard Lee's fascination with time travel as his struggle with the relentlessly linear forward temporality, but his fantasy of escaping from this linear temporality ironically relies on the algorithmic structure of time provided by the video game. This contradiction between the fantasy of freedom and the structure of control is further played out through the film as it remediates the temporality of the video game and adopts a structure of algorithm. I argue that algorithm should be considered as key to the reshaping of cinematic time in the digital era, replacing ideological functions of the index, which had long served as a cathected site of contingency and structure, freedom and control.

## 1 The Marvelous Time Travel

Time travel became a common theme in contemporary Chinese youth culture with the publication of Ye Yonglie's science fiction bestseller *Little Smartie's Visit to the Future World* 小灵通漫游未来 (1978), which features a technologically advanced utopian world.<sup>9</sup> Yet, if *Little Smartie's* futurist imagination is saturated with a scientific optimism and Enlightenment progressivism, this futurist imagination lost its appeal after the Tian'anmen incident in 1989. Although the official media continued to propagate a developmental discourse, the optimistic futurist dreams became increasingly unsustainable in the 1990s as social disparity was aggravated in the process of drastic marketization. The 1995 Hong Kong fantasy-comedy film *A Chinese Odyssey* 大话西游, starring Stephen Chow, introduced a more playful version of time travel that is no longer tied to progressive narrative. A loose adaption of *Journey to the West*, a 16<sup>th</sup>-century novel, *A Chinese Odyssey* became a classic "*mo lei tau*" 无厘头 (literally "nonsensical") comedy that swept across college campuses. Its popularity among college students, on the one hand, developed with the burgeoning internet culture at this moment in

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9 For a reading of *Little Smartie's Visit to the Future World*, see Iovene 2014: 24–30.

mainland China, especially with the appearance of the BBS (Bulletin Board System) in campus-wide local area networks that served as the social media for the formation of a peer-based youth subculture, and on the other hand, concurred with the VCDs as a cheap medium in Asia for the circulation and distribution of audio-visual materials. The film, initially mediocre in its box office performance, reached the status of a cult classic precisely through endless replays in college dormitories. It is reasonable to suggest that there is a parallel between the back-and-forth structure of the film in which Stephen Chow holding the time travel device called “moonlight box” 月光宝盒 traverses across the past and the future, and the scenario of its young college audiences holding the devices of VCD players rewinding scenes for repeated viewing. In other words, time travel as an emblematic structure of feelings in Chinese youth subculture coincided with the freedom to rewind and forward audiovisual materials provided by the VCRs and VCDs. Further attesting this correlation between time travel and media technology, *A Chinese Odyssey* was later adapted into an internet game, and the time travel device in the film, called “moon box”, became a popular name for various media products, from audio-visual media player to Set Top box.

Time travel theme has become prevalent among Chinese internet culture, especially in novels composed by internet writers, and published on *qidian* 起点 and *jinjiang* 晋江 and other internet literature websites. The “*chuanyue*” romance, a subgenre of time travel novels which are usually penned by female writers and target female readers, often features a white-collar woman who by accident is thrown back to a different historical period, say, the Qing dynasty, and thus obtains a game-like opportunity to interact with historical figures, with whom she is already familiar through popular historical fiction, movies and television shows.<sup>10</sup> Popular among internet literature readers, this genre soon attracted the attention and investment from both print media and television networks. Around the turn of the 2010s, a flurry of television shows adapted from the “*chuanyue*” romance, such as *Palace* 宫 (2011), *Scarlet Heart* 步步惊心 (2011), mostly set within the forbidden city and centering around royal families, were broadcast among Asian TV networks, not only in mainland China, but also in Taiwan, Hong Kong, Singapore, Malaysia, and Japan. This “*chuanyue*” genre is often narrated from the perspective of the time traveler, who is thrown into a setting different and distant from her everyday life. To a certain extent, this time traveler is just like a video game player: she following the generic narrative plays a role in the game, but at the same time self-consciously acknowledges the virtual setting as a temporary suspending of the extradiegetic world. In fact, with

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10 For a discussion of “*chuanyue*” internet novels, see Feng 2013.

the popularity of this genre, video games based on “Qing dynasty court drama” 清宫戏 also appeared. Each game player can be a time-traveler to a game-rendered world of the past. In this case, the plot still maintains a certain degree of historical “authenticity” without going against received annals of “big” events, such as the enthroning or death of an emperor or prince. The time traveler has “prescient” knowledge, or rather, “hindsight” of what had happened historically in the royal family. But this “prescient” knowledge is almost useless except for giving the time-traveler a sense of doomed ending that is given to her even before her own story unfolds, just like a game player who knows that the plot is preprogrammed. The time-traveler has no knowledge of specific encounters she will run into except for a predetermined destination, as it is made clear to her that history, or history written exclusively by people in power, is already set into an ironclad without her participation. However contingent and individualized things may appear as, whatever the time-traveler/game-player does cannot alter the given procedures and the ironclad ending. As we shall see, this sense of feeble agency in front of preprogrammed history and life is shared by *Lee’s Adventures*.

The fast expanding video game industry in the past decade has attracted more than 300 million users in China. With the growing number of game players and the ascending status of the computer video game as a medium for audio-visual entertainment, video games also inspire new forms of artistic creation. Artist Cao Fei made a series of video works, entitled “I. Mirror” and “RMB City”, by using avatars of *The Second Life*, an online virtual world developed by Linden Lab. Grassroots artists are no less creative. In 2010, a 64-minute long video made by players of *World of Warcraft* gained a click-through rate of more than 4 millions after its appearance on the internet. Entitled “War of Internet Addiction”, the video was collaborated by up to 100 volunteers who logged into the game and performed out a script written beforehand. The video itself is a protest against the internet censorship, and the unwelcome intervention of the government into the “gamers’ world.” Using the real-time game platform, the video deliberately incorporates various references to recent media incidents, blurring the boundary between the purported “virtual” world and the “real” world. These works created by both professional artists and amateur users indicate that video games have increasingly become a medium form that restructures people’s experience of reality and virtuality, and their sense of temporality.

## 2 The Tyranny of Standardized Modern Time

*Lee’s Adventures* appeared at a time when time-travel internet literature flourished across multimedia platforms. Instead of telling the stories of what happens after travelling to a different time as in many other similar-topic works, however,

both the animation and the film focus on how the protagonist fulfills his time travel wish by playing a computer video game. The video game as the very vehicle for time travel is highlighted by his repeated attempts to beat through the game. On the one hand, the purpose of his time travel is to overcome the irreversible temporality in order to get back his lost love; on the other hand, as the video game becomes the center of his life, his time is instead measured by the cycles of his game-playing. These competing temporalities are highlighted in the film version by making Lee into a white-collar officer who has to observe strictly the corporate timetable, and mechanically repeat everyday routines by going back and forth between his cave-like apartment and his tiny cubicle. The sound of his alarm clock often punctuates the *mise-en-scene*, shaking him out of his dream world to start a workday. But this sound of the alarm clock has to compete with the fast clicking sound of Lee's fingers fast knocking on the game console, until eventually, he is free from the tyranny of the alarm clock: one morning when he rushes out to work as usual, he finds his little apartment suspending in the air, but below is a landscape of more than a million years ago – he has beaten through the game and “landed” at a moment in the past! No longer bound by the corporate work schedule, he sits back in front of the screen and starts playing the game again in order to leave for other times. At this point, his apartment becomes a flying castle, taking him to different moments in both the past and the future.

Visual cues of time permeate or even dominate the film: calendars, pitch-black clocks hanging on blank walls that indicate time are everywhere. The metallic outlook of the calendars intentionally invokes nostalgia for the industrial era and “archaic” analogue media. The pervasiveness of time-keeping devices shows the tyranny of meticulously measured, standardized time. Clocks, as Bliss Cua Lim reads, are “instruments for time measurement and time-discipline that render duration (*durée*) as linear succession, converting heterogeneous temporalities into a series of equidistant, uniform intervals.”<sup>11</sup> The standardization of time starting at the end of the 19<sup>th</sup> century, according to Mary Ann Doane, is closely tied to the industrialization and the rise of a machine culture, and directly driven by the development of railway travel and telegraphy.<sup>12</sup> Time is conceptualized as homogenous, discrete units, as of an inexorable linearity. Such rationalization of time manifests above all in the industrial organization in factories, with the use of the punch-card to control tightly workers' working time, and the adoption of the notorious Taylorization that aimed to maximize efficiency by forcing a temporality on the worker's body and gestures. This standardization and rationalization of time extends to all aspects of social

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<sup>11</sup> Lim 2009: 10.

<sup>12</sup> Doane 2002: 4–5.

life, especially with the ascendance of financial capital facilitated by electronic communication networks, which enable volatile transactions and endless circulation in a split of a second. While flexible working time and schedule is often credited as the merits of informationization of work and life in every aspect, the pursuit of maximum efficiency is nonetheless continuous with the era of industrial capitalism. The control of workers by time-measuring techniques is not relaxed but tightened with the proliferation of information technologies. In the film, Lee's everyday life is regimented into pieces by a corporatist tyranny that turns him into merely a punctual machine performing a similarly mechanic job of information input and output on computers. He describes himself as a "walking corpse", completely invisible among identical black business suits. Contrary to the discourse of flexibility of information work, Lee's work-life is still subject to rigid timetable and inexorable corporate management.

Lee's life can generate strong resonance among young audiences who likewise struggle with the encroachment of personal life by increasingly corporatized society. According to a survey conducted in 2012, working overtime is common among urban professionals in China. Almost one-third professionals work more than 10 hours each day. Many people under the high pressure of their jobs suffer from depression and other mental health problems. The same survey reveals that 72.8 percent of the respondents working in the financial realm identified themselves as "living under high pressure" and "experiencing depression and no pleasure in life;" one-third respondents in the IT industry admitted that they had become emotionally torpid due to their high-pressure work and the lack of communication with coworkers, friends, and family members.<sup>13</sup> Besides the highly intensive and long-duration work, with the skyrocketing price of the real estate in the past decade, the middle-class dream of young and mid-aged professionals are derailed with unaffordable housing. This is especially acute for the generation who were born in the 1980s, now are in their thirties but fall to become the "slaves to mortgaged houses." Furthermore, the 1980s-born generation received the late-socialist education but came of age in the tides of commercialization, which swept away any remnants of utopian dreams. They are thus often described as "a generation who no longer harbor dreams" 失梦的一代.<sup>14</sup> It comes at no surprise that the film was regarded by critics as a movie of the 1980s-born generation, not only because its scriptwriter, director and leading actors all belong to the 1980s-born generation, but more because it reflects the living condition and sentiments of this generation.

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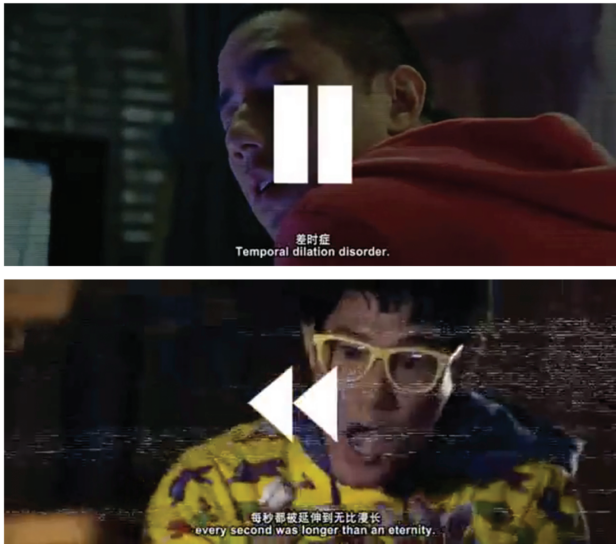
<sup>13</sup> Tencent (2009).

<sup>14</sup> NetEase (2015).

### 3 “Temporal Dilation Disorder” and Gamification of Time

But one thing keeps Lee from being completely controlled by the homogeneous, standard corporate time: he suffers from what he calls the “temporal dilation disorder” (TDD). As he explains, one symptom of the TDD is that a long period of time can be mistaken by him as much shorter. One day, he goes out to sit in a park for a lunch break. He thought that he had just spent half an hour there, but he goes back to his office only to find that nothing remains the same anymore. The company he worked for no longer exists, because it has reopened under a different registered name after declaring bankruptcy; his cubicle has been occupied by someone else; even the park he just went to is leveled to the ground by real estate developers. It turns out that one year has slipped away during his lunch break. In a world chained to flying-speed developments, all that is solid can melt into air in seconds. Hijacked by the high-speed developments, a petty clerk like Lee can barely afford a lunch break. A failure to synch up with the high-speed, non-stop forwardness is pathologized as the incapacity of individuals.

The TDD in the end means that Lee is out of synch with the standardized, homogenous time, the time quantifiable for the sake of efficiency. The TDD can also make him experience a short window of time as an unusually long period. This, inadvertently, gives him an “advantage” to play with the boring corporatist time. In one scene, the heads of the company are sitting around a conference table, condemning their submissive clerks for not being efficient enough. Lee determines to play a joke by elongating one minute with his TDD so that the cinematic time of that one minute is rendered almost into a series of still motion images. This takes to extremes the discreteness of modern time by dividing one minute into more small units, but also gives Lee the opportunity to create an havoc by taking actions when everyone else is “frozen” still. Move someone’s coffee pot a bit, or piles of documents to right above the head of the manager, in the seconds to follow when everyone resumes their actions, an efficiency-driven office is thrown into chaos with spilt coffee, disarrayed files, and the angry and screaming boss. Particularly worth mentioning here is the ways in which the cinematic devices of manipulating time such as cutting and editing are employed as the visualization of the symptoms of the TDD: Lee’s experience of elongated time becomes still images, while his actions become an editing process that changes the ensuing movement in the frame. While cutting and editing have been the oldest techniques of filmmaking, it is the digital that makes image-editing technology unprecedentedly accessible even to amateur users, and therefore Lee’s seemingly effortless manipulation of



**Figure 1:** Signs of pause and rewinding superimposed on live action sequences.

media time. This analogy between the TDD and media manipulation of time is more explicit in other scenes when signs of “pause” and “rewinding” are directly superimposed onto the footage of live performance in order to illustrate Lee’s TDD experience. (Figure 1)

Here Lee’s interaction with live actors is not that different from the interfacing on a game console, as the action between discrete images/seconds, or at the interstices between other actions, according to Alexander Galloway, is closely aligned with the temporality of gaming. This particular temporality is a “luxury” of gaming, as he explains:

(I)n gamic vision *time and space are mutable within the diegesis in ways unavailable before*. Games have the luxury of being able to exist outside real, optical time. Games pause, speed up, slow down, and restart often. But more than that, they can also transpire in moments of suspended time, as in turn-based role-playing games (RPGs) where the player plays (set up actions, inspect statistics, rearranges character formations) solely during the interstices between other actions. Film has never had this luxury. Films are time based and must transpire through time in order to be played, to be experienced.<sup>15</sup>

He further uses the moment of “bullet time” in *The Matrix* as an instance of this “gaming time”, during which “the aesthetic of gaming moves in and takes over

<sup>15</sup> Galloway 2006: 65–66.



he film.” This is because, during the “bullet time”, the action onscreen is artificially slowed down while the time of the film continues to proceed. The protagonist, just like a gamer, acts during the interstices between other actions – as if the protagonist/gamer defies the regular tempo, while the continuity of the actions of other people and objects are broken down into still images/slow motion for the gamer to act upon.

This “bullet time” indeed appears in *Lee’s adventures* later when he is fighting in Afghanistan: the bullet is literally slowed down from his perspective so that he can catch the bullet with one hand, even though the bullet flies by in less than one second according to the standard time. (Figure 2) The scene thus reflects the cinematic adoption of gaming time, although technologically, this bullet time of gaming, as Galloway points out, relies on an old medium of still photography.



Figure 2: Bullet time.

In the film, this alleged “temporal dilation disorder”, often in the form of gaming time, provides Lee small wicked pleasures in escaping from the inexorable, efficiency-centered corporatist temporality. These are the few moments when Lee has some control over things around him, although these moments appear almost as fantasy. One scene happens when Lee calls to purchase a drug of stimulant crucial for him to beat through the game, but becomes frustrated when he learns about the price of the drug. The scene continues to show him calling again



a few seconds later to complete the transaction and produce five hundred thousand *yuan* immediately. It is later revealed that the two calls are actually one and half years apart, and the false continuity of the two calls are caused by Lee's TDD, which tricks him to mistake an extremely long period as just a few minutes. The five hundred thousand *yuan* he seems to have produce without difficulty is in fact he earned in the invisible one and half years by selling his kidney and using his body for illegal smuggling. The point is that the manipulation of time on his side with the alleged TDD gives him a sort of magic agency that transforms him from a powerless "loser" to a hero of command over things. The magic of the TDD is also that of media manipulated time, which makes two disparate moments seamlessly continuous, while the elapse of time between the two moments becomes invisible to the audience. The two rounds of actions of making phone calls that are repetitive towards one goal also resemble repetitive rounds of video games, for which everything restarts with each new round, rendering any in-between non-gaming time meaningless and invisible. Hidden behind Lee's seemingly effortless action is his immense corporeal suffering and strenuous labor under precarious conditions. The magic moments of heroic agency are in fact a game of time that creates repetitive restarts with an illusion of refreshed possibilities.

In this sense, the video game provides a fantastic temporality for the protagonist to affirm his agency.<sup>16</sup> Squeezed dry by daily, menial toil in the glass-surfaced office buildings, and too feeble to change "preprogrammed everything", Lee holds the video game as his last straw to hack into a different time. In one scene, when he is detained for illegal smuggling, he manages to escape from the police office. He does not run anywhere to avoid police's capture, but instead, goes directly home to continue his game – what is a better escape than an escape into a different time? He is so absorbed in his game that he appears completely unconcerned with a room full of cops with guns pointing at him. While the fully armed cops regard him as a dangerous threat, all he can do is to fight against the enemies in the game world in order to realize his wish. He is "armed" with only a video game console. The gun-holding cops in the room are cross-edited with fierce fights scenes in the videogame. This scene of black humor only exposes more of his vulnerability. As one bullet pierces through his head, he falls immediately onto the ground, deadly motionless.

Magic, again, comes from the power of media to manipulate time. In the next scene the deadly silence is broken by Lee's set alarm in the morning.

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<sup>16</sup> According to an annual report published by China Internet Network Information Center in 2010, near 80 percent users of MMOG (massively multiplayer online game) are students and corporate employees with monthly income lower than 3,000 *yuan* (about 480 US dollars). See CINIC 2015.

Lee, miraculously gets up from the ground, puts on his suit, and rushes out to work, only to find that his apartment is hanging above the land of Canberra of 100 million years ago – he has beaten through the game and been transferred to a different time! The abrupt jump of this scene from the previous scene blurs the boundary between the real and the fictive, but more importantly, disrupts a cause-and-effect linear temporality. In this way every shift of scenes could be a digression, or a beginning, into a new direction and a new story. The narrative of the film thus becomes “a garden of forking paths”, to borrow the title of the famous story by Jorge Luis Borges. The story of the Argentine writer is often celebrated by new media artists and scholars as a hypertext that precedes the birth of the internet. Deleuze reads the story as an allegory of impossible worlds, as D.N. Rodowick elaborates: “(T)he straight line as force of time, as labyrinth of time, is also the line which forks and keeps on forking, passing through *impossible presents*, returning to *not-necessarily true* pasts.”<sup>17</sup> Indeed, the film is not interested in replicating “true” pasts, for the computer graphic images display a sort of deliberately marked fabricatedness. The video game does not bring Lee back to a fixed, ossified moment in the past, but to mediated pasts passing through the presents, or to the pasts constructed through the media technologies available at the present. The labyrinth of time does not guarantee “true” pasts, nor negates the realness of each forking into a different temporality. Yet the seemingly fantastic temporalities associated with gaming are no less “real” than the standard, homogenous time measured by clocks and calendars. Rather than fictive and unreal, the gaming time suggests the emergence of temporalities facilitated by digital and electronic media, coexisting and competing with the mechanic time of industrial capitalism. The former is imagined or fantasized as an alternative to the latter – that’s why gaming time in the film is pitted against work time, and adopted by Lee as a flight from the latter. However, as discussed by perceptive critics, information capitalism is no less predatory in colonizing people’s time.<sup>18</sup> Does the video game indeed provide an alternative, or does it signal a restructuring of freedom and control in the era of algorithm?

## 4 The Algorithmic Probability of Contingency

The possibilities provided by the video game are visualized in the film as multiple doors that lead to different moments. Each time Lee cracks the game

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<sup>17</sup> Rodowick 1997: 98–99.

<sup>18</sup> See for example, Crary 2014.

a door opens for him to “land” at a moment in the past or the future. But exactly to which moment the door leads is entirely contingent: passing the door, Lee might get back to the moment when he was born, or to just one minute before he cracked the game. Although the doors open up multiple possibilities, his access is random: his relation to time becomes a database structure that is predicated on both multiplicity and random access.

Yet the randomness is already written into, and thus structured by, the algorithm of the game: it is the algorithm of the game that enables him to sample potentially limitless number of moments. The abundant possibilities provide a freedom against the irreversible linearity of time. The freedom, however, is preprogrammed possibilities, to the extent that, a door opens only if you follow the set procedures of the game and repeat them. The film particularly calls attention to the effects of this endless repetition on the human body: Lee’s hands – now metallic ones that replace the flesh ones – are literally part of the game console and become rusty and eroded by perspiration, and his brain part of the cybernetic loop sending out signals to keep the program running. The life behind the enticing doors is no less schematic and repetitive. Once Lee enters the door and gets back to a moment in the past, he has to repeat what he has done before, and follow through the program of the game again and again in order to jump to a different moment. In this sense, his life and the game share an isomeric structure of repetition. The paradox is that he has to first submit himself to the algorithmic program in order to access other possibilities.

This paradox between multiple possibilities and programmed procedures suggests that the room for freedom and play is always intertwined with rationalized structure of control. Mary Ann Doane, in writing about the tension between the rationalization of time and the fascination with the contingent, regards both aspects as interdependent to the structure of temporality in modernity, as she explains:

The theory of rationalization does not allow for the vicissitudes of the affective, for the subjective play of desire, anxiety, pleasure, trauma, apprehension. Pure rationalization excludes the subject, whose collusion is crucial to the substance of a capitalist system. In the face of the abstraction of time, its transformation into the discrete, the measurable, the locus of value, chance and the contingent are assigned an important ideological role – they become the highly cathected sites of both pleasure and anxiety. Contingency appears to offer a vast reservoir of freedom and free play, irreducible to the systematic structuring of “leisure time.” What is critical is *the production of contingency and ephemerality as graspable, representable*, but nevertheless antisystematic.<sup>19</sup> (emphasis mine)

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<sup>19</sup> Doane 2002: 11.

Chance and the contingent, invested with the lure of freedom, as Doane sharply discerns, are “structurally necessary to the ideologies of capitalist modernization.”<sup>20</sup> She continues to point out that cinema emerged around the turn of 20<sup>th</sup> century, along with statistics, thermodynamics and other disciplines that defined the epistemology of contingency, as a device to capture and represent the contingent. Film was believed to be the imprint of time, and the indexicality of photography-based images was regarded as the technological assurance of the authenticity of the imprint. In other words, the understanding of photographic images as the representation of the contingent should be considered as part of a broad epistemology to manage randomness. Doane suggests a strong connection between photographic media and the rise of statistics, as she explains: “A confrontation with the overwhelming contingency of the medium – its ability to accumulate a hoard of uncataloguable details – results in the nineteenth century’s urge to make photographic meaning accountable to statistical epistemology. Statistics in this regard constitutes a form of reconciliation of law of contingency...”<sup>21</sup> This reconciliation is also manifest in thermodynamics, in its simultaneous acknowledgement of both the random movement of individual molecules and the statistical prediction of the trends. Parallel to the idea of entropy in thermodynamics was the understanding of temporal irreversibility that was shared and reinforced by the inexorably forward movement of cinematic apparatus. Doane remarks that the flashback and various cinematic experimentations with narrative temporality, though demonstrate the cinematic manipulation of time, in the end acknowledges and honors the linear forward temporality. If contingency threatens to be meaningless, statistics, thermodynamics and cinema all provide the means to represent contingency.

Doane’s insight on cinematic time places cinema in a broad sociopolitical and epistemological context in relation to the discipline of modern subject. Key to her argument is the ideological functions of the indexicality of photography-based images, which on the one hand acknowledges the contingent and thus promises the room for freedom and free play, but on the other hand renders the contingent representable and therefore manageable and containable. This concern with the representability of contingency does not disappear with the controversial erosion of indexicality in the digital era – namely that digital images can easily be manipulated and no longer a reliable imprint of profilic objects – but is restructured, I argue, through algorithm. Contingency is, as is shown in the film, reconfigured as a database for random access.

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<sup>20</sup> Doane 2002: 11.

<sup>21</sup> Doane 2002: 129.

Strikingly, *Lee's Adventures* self-consciously refers to the computer video game as meta-media for the structuring of temporality: the repetitive cycles of the video game mirror the repetitive office work that straps petty clerks like Lee to the rationalized, discrete time, whereas the databased possibilities provided by the game become the “cathected sites”, to use Doane’s words, for the play of freedom and fantasy. In this sense, the video game, or algorithmic media in general, demonstrates continuity with the role of cinema in structuring temporality, in balancing the relentless standardization of time and the play with the seemingly unstructured and intractable contingency. As cinema develops from the analogue to the digital, the way that it balances out the contradictory two sides of temporality also shifts from the index to the algorithm: if the representation of contingency in analogue films relies on the technological assurance of indexicality, it becomes a question of algorithmic probability for cinema of the digital era.

In *Lee's Adventures*, this algorithmic logic is presented as repetitious procedures of the video game and loops of set operations performed by Lee as he jumps from one point of time to another. This recursive structure of nesting loops is often regarded as central to the algorithmic culture of our computation society.<sup>22</sup> Totaro and Ninno trace the recursive structure back as originating from a culture of mechanization and wide dissemination of bureaucratic organizational models in modern times, and especially “process formalization that facilitated the designing of the mechanical equipment and their speed.”<sup>23</sup> Although it does not start with digitization, algorithmic computation further formalizes the bureaucratic organizational models of modern times, and accelerates the cycles of recursion driven by corporatist rationalization of time. In this sense, the gaming time fantasized by Lee as an escape from corporatist time is not really an alternative, but rather an indication of the intensification of control with the process formalization further escalated by algorithmic computation. The tension between contingency and formalization is rendered in the film as a story of control and play in the digital era: the only way for Lee to free himself from the suffocating corporatist time is to try out the algorithmic possibilities provided by the database, and thus subject himself to the dictatorship of algorithm.

## 5 The “Net-Born Generation Cinema”

With this restructuring of contingency by algorithmic probability, the “reality” effect, which media critics often associate with the indexicality of photographic

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<sup>22</sup> See Totaro/Ninno 2014; Wilf 2013.

<sup>23</sup> Totaro/Ninno 2014: 33.

images, now matters less than the variety of images that can be generated from data. Photographic images are no more “real” than non-photography-based images, as different types of images, from cartoon, to animated image from the original short, and pervasive CGIs, are now all digitally mediated and brought to the same level to coexist within the film. The film moves freely back and forth between live action and animation and other types of images, challenging the common association of animation with pure fantasy as opposed to “real” live action footage. For example in a sequence, Lee hires, with the money from his kidney selling, a Japanese game player named Umemoto to assist him in beating through the game. Driven mad by Lee’s frenetic addiction to the game and his insistence in playing the game more than 20 hours each day, Umemoto becomes furious and threatens to destroy the game CD. A close-up on his angry face is followed by a quick shot of the same actor with exactly the same body gesture and facial expression but addressed in Japanese military costume, a generic representation of Japanese in anti-Japanese war films and TV shows set in the WWII period. This same scene is soon followed by a cartoon image of an angry man. (Figure 3) The flashing alternation of different images of the same “message” seems redundant in the way that they do not push forward the development of the plot nor add any additional information. Yet this juxtaposition flattens the hierarchy of different types of images, as if to ostentatiously display different possibilities of image configuration. Lev Manovich in his *The Language of New Media* lists variability as one major feature of a new media object. This is because, with numerical coding and modular structure, “a variety of end-user objects which vary both in resolution, in form and in content can be generated” from a media database.<sup>24</sup> In this scene, although these images are not necessarily digitally generated, but once placed together through digital mediation, the seemingly redundant variability of the images testifies the algorithmic aesthetic of the film.

This salient aesthetic is consciously pursued by the filmmakers, who targeted a market mainly made of a new generation of young audiences who are “digitally born.”<sup>25</sup> They believed that the internet plays an unprecedentedly important role in the life of young audiences, whose cognition mode differs significantly from that of elder audiences. Therefore, the investors of the film were eager to exploit the new media and internet culture in order to open up a new film market for the “digitally born” generation. The producers initially approached Han Han, an idol internet writer of the “1980s born

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<sup>24</sup> Manovich 2001: 56.

<sup>25</sup> MTIME (a) 2015.



**Figure 3:** “Redundant” display of multiple images.

generation”, to act the lead role.<sup>26</sup> This is revealing about strategies of the investors and filmmakers in tapping into cinema’s connections with broader media networks.

The film’s close affinity with the network culture is also manifest in its narrative mode. Some reviewers criticized the film for its discrete, small stories that are not well integrated.<sup>27</sup> But this, according to critics, should be regarded as a distinguished characteristic of the “net born generation cinema:” small “grains for laugh” 笑点 are scattered in a loosely constructed framework, and the film/narrative unfolds in a way with little interest in building up a tightly-

<sup>26</sup> MTIME (a) 2015.

<sup>27</sup> MTIME (b) 2015.

knitted plot.<sup>28</sup> The “grains for laugh” are often what netizens call “bridge plots” 桥段 that have already been well-circulated among the internet and recognizable immediately to netizens – a “bridge plot” could be a buzzword, an anecdote, a funny scene, a media incident, or even a pattern of joke-telling. Such references to bridge plots or other popular media phenomenon are common among online parody videos.<sup>29</sup> With the increasing convergence of cinema with the network media, feature films, especially commercial ones, also started to display such aesthetic features.<sup>30</sup>

Again the convergence here is not merely a technological issue but more a marketing strategy. As some insiders revealed, crucial here is to quickly maximize the value of a marketable creative idea by drawing it from the internet into the realm of filmmaking, often intentionally keeping its original media form recognizable in the film.<sup>31</sup> For the case of *Lee's Adventures*, the viral spread of the animation short among internet users clearly convinced the investors the commercial potential of its adaption into a feature film, and the feature film consciously remediates the aesthetic of the animation to remind its audience of such a connection. In this way, Bolter and Grusin's notion of “remediation” reflects not merely intermedial relations, but also the repetitive cycles of media consumption. Once one creative idea is seized up by the capital, the industrial chain is extended across different media platforms so that the lifespan of a core product is expanded through continuous recycling and repetitive consumption, although each new product may not be exactly the same as previous ones. These cycles of remediation and recycle may strike as uncannily similar to the recursive structure of algorithm culture: each individual action/product may appear as different and subject to contingency, but they are governed by similar procedures. The temporality of a media object therefore appears as both ephemeral to be eclipsed among fast consumption, and repetitive with uncanny returns.

In this sense, a media object indeed can be regarded as a time machine, always bringing into the present a different but cyclic moment. Yet the video game, despite Lee's deep investment, rather than providing a real alternative, represents new means of control in the era of algorithm. The ideological functions of the index for analogue images, are now taken over by algorithm, governed by recursive structures of predetermined procedures along with paths of random access that provide an illusion of multiple possibilities and free play. The purported “net-born generation cinema” signifies the transformations of cinema with its remediation of

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<sup>28</sup> Wang et al. 2014: 9.

<sup>29</sup> See Liu 2010.

<sup>30</sup> See Liu 2014.

<sup>31</sup> Wang et al. 2014: 9.



other media forms readily facilitated by digitization, but more importantly, indicates the renewal of the “cinematic mode of production”<sup>32</sup> in the era of information capitalism as an apparatus for more drastic value extraction from human affect and body.

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<sup>32</sup> I borrow the term “cinematic mode of production” from Jonathan Beller, who regards cinema as an apparatus that help consolidates the construing of looking as “productive labor” and the capitalization of perception. See Beller 2006.

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